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(54) **AMBIENT PRESSURE OPTIMIZING OF
SBRB VSA ASU**

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(57) **ABSTRACT**

The air separation unit includes a single adsorption bed downstream of a reversing blower and configured to operate on the principle of vacuum swing adsorption. An optimal ambient air pressure to vacuum pressure ratio within an adsorber vessel downstream of the reversible blower is identified. When the air separation unit is operated at ambient conditions where ambient air pressure is different, such as at higher altitude (or lower altitude) a pressure ratio across the blower when drawing a vacuum on the adsorption bed is maintained for optimal blower power to oxygen production performance. Time for recovery of the adsorption bed can also be modified due to the lower absolute pressure achieved within the adsorption bed when the pressure ratio across the blower is maintained. An ASU is thus provided which is optimized for performance at various different altitudes without requiring modification of equipment within the ASU.

18 Claims, 6 Drawing Sheets

